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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,218	02/17/2004	Kazuya Kimura	5000-5147	1934
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MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER STIMPERT, PHILIP EARL	
			ART UNIT 3709	PAPER NUMBER
			MAIL DATE 05/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/781,218

Applicant(s)

KIMURA ET AL.

Examiner

Philip E. Stimpert

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3709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 11 recites an elastic member arranged between the compressor housing and the switching element. However, claim 5, upon which claim 11 depends, recites that the switching element is pressed against the compressor housing, implying direct physical contact. This precludes the presence of a member between the two, rendering claim 11 indefinite.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 4-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura et al (US PGPub 2004/0013544).

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3. Regarding claim 1, Kimura et al teach an electric compressor, comprising: a compressor housing (11, 21-22); a gas compression mechanism (14) accommodated in the compressor housing (11); an electric motor (12) that drives the compression mechanism (14); a motor driving circuit (41) that drives the electric motor (12); and a circuit cover (38) attached to an outer surface of the compressor housing (11), wherein the compressor housing (11) and the circuit cover (38) define an accommodating space (35), wherein the motor driving circuit (41) is accommodated in the accommodating space (35), and wherein the motor driving circuit (41) is attached to the circuit cover (38).

4. Regarding claim 4, Kimura et al teach that the motor driving circuit (41) is held between the compressor housing (11) and the circuit cover (38) when the circuit cover (38) is joined to the compressor housing (21).

5. Regarding claim 5, Kimura et al teach that the motor driving circuit (41) includes a circuit board (43) and a switching element (44a), wherein the circuit board (43) has a first surface (43b) facing the circuit cover (38) and a second surface (43a) located on a side opposite from the circuit cover (38), and wherein the switching element (44a) is mounted on the second surface (43a), and wherein, when the circuit cover (38) is joined to the compressor housing (11), the switching element (44a) is pressed against the compressor housing (21).

6. Regarding claim 6, Kimura et al teach that an adjusting member (46-47) is arranged between the circuit cover (38) and the circuit board (43), and wherein the

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adjusting member (45) adjusts force with which the switching element (44a) is pressed against the compressor housing (21).

7. Regarding claim 7, Kimura et al teach that the adjusting member (46-47) includes a circuit board support member (47), and wherein the circuit board support member (47) is located on a part of the first surface (43b) of the circuit board that corresponds to the switching element (44a).

8. Regarding claim 8, Kimura et al teach that the circuit board support member (47) is made of resin (paragraph 36).

9. Regarding claim 9, Kimura et al teach that the adjusting member (46-47, 51) includes a spacer (46, 51) arranged between the circuit cover (38) and the circuit board (43).

10. Regarding claim 10, Kimura et al teach that the spacer (46, 51) is a selected one of a plurality of spacers that have been prepared in advance, wherein the spacers have different thicknesses (paragraph 47).

11. Regarding claim 11, Kimura et al teach an elastic member (45) arranged between the compressor housing (21) and the switching element (44a).

The applied reference has three common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

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either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 4-9, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US PGPub 2002/0025265), in view of Henein et al.

14. Regarding claim 1, Ikeda teaches an electric compressor (10) comprising: a compressor housing (1, 51-52); a gas compression mechanism (60, 70) accommodated in the compressor housing (51-52); an electric motor (80) that drives the compression mechanism (60, 70); a motor driving circuit (2-4) that drives the electric motor; and a circuit cover (6) attached to an outer surface (1) of the compressor housing, wherein the compressor housing and the circuit cover define an accommodating space, wherein the motor driving circuit (2-4) is accommodated in the accommodating space. Ikeda does not teach that the motor driving circuit (2-4) is attached to the circuit cover. Henein et al teach that their control apparatus (3) is attached to the circuit cover, and that this creates a modular apparatus that is inexpensive to manufacture (col. 1, ln. 32-36, Fig.

3). Therefore it would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Ikeda's compressor to attach the motor driving circuit to the circuit cover in order to reduce manufacturing costs.

15. Regarding claim 4, the combined references teach the limitation that the motor driving circuit is held between the circuit cover and compressor housing when the circuit cover is joined to the compressor housing.

16. Regarding claim 5, the combined references teach the limitation that the motor driving circuit includes a circuit board (see drawings in either reference) and a switching element (Ikeda, paragraph 4, lines 5-11) and that the circuit board has surfaces facing towards and away from the circuit cover. The combined references do not explicitly teach that the switching element is attached to the surface facing away from the circuit cover, or that it is pressed against the compressor housing when the circuit cover is joined to the housing. However, Ikeda teaches that "heat generated by inverter 2 of drive circuit 4 is absorbed by lower temperature refrigerant gas through partition wall 1b," (paragraph 18, lines 3-5), and conductive contact between the switching element (inverter) and the compressor housing would have increased the cooling effect on the switching element. Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to arrange the switching element on the circuit board such that it was attached to the face opposed from the circuit cover and was pressed against the compressor housing when the circuit cover was assembled to the housing.

17. Regarding claim 6, the combined references teach the limitation that an adjusting member (either Ikeda's resin 100' or the circuit board supports of Henein et al) is arranged between the circuit cover and the circuit board, and if the switching element

were pressed against the housing as above, the adjusting member would adjust force with which the switching element presses against the compressor housing.

18. Regarding claims 7-8 Ikeda shows, in Fig. 2, a body of resin 100'. This body of resin functions as a circuit board support member, and is located on a part of the surface of the circuit board facing the circuit cover which corresponds to the switching element, meeting the limitations of claims 7-8.

19. Regarding claim 9, the supports shown in Fig. 3 of Henein et al which join the circuit board to the circuit cover constitute a circuit board support member and, in particular, spacers.

20. Regarding claim 12, the combined references teach a method (Henein et al, col. 1, ln. 32-35) of assembling an electric compressor having a compression mechanism accommodated in a compressor housing, wherein the compression mechanism is driven by an electric motor to compress gas, the method comprising: attaching a motor driving circuit for driving the electric motor to a circuit cover; and joining the circuit cover, to which the motor driving circuit is attached, to an outer surface of the compressor housing such that the compressor housing and the circuit cover define an accommodating space for accommodating the motor driving circuit.

21. Regarding claim 14, the combined references teach that the motor driving circuit is held between the compressor housing and the circuit cover when the cover is joined to the housing.

22. Regarding claim 15, the combined references teach that the motor driving circuit includes a circuit board and a switching element, wherein the circuit board has a first



surface facing the circuit cover and a second surface located on a side opposite from the circuit cover, and wherein the switching element is mounted on the second surface, and wherein, when the circuit cover is joined to the compressor housing, the switching element is pressed against the compressor. For detailed discussion, please see the above treatment of claim 5.

23. Regarding claim 16, the combined references teach the limitation that an adjusting member (either Ikeda's resin 100' or the circuit board supports of Henein et al) is arranged between the circuit cover and the circuit board, and if the switching element were pressed against the housing as above, the adjusting member would adjust force with which the switching element presses against the compressor housing. The step of arranging that adjusting member is implicit in its presence in the disclosed structure.

24. Claims 10-11 and 17-18 are rejected under 35 U.S.C. 103(a) as being obvious over Ikeda in view of Henein et al as applied to claims 1, 4-9, 12, and 14-16 above, further in view of Kimura et al.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

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in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 10, the previously combined references teach the use of a spacer between the motor driving circuit and the circuit cover. The combined references do not teach that the spacer is a selected one of a plurality of spacers that have been prepared in advance having different thicknesses. Kimura et al teach that "the thickness of the spacer 51 is selected... from the prepared spacers 51 having various thickness, and the selected spacer 51 is interposed between the motor drive circuit 41 and the cover member 38" (paragraph 47, lines 10-14).

Regarding claim 11, Ikeda and Henein et al do not teach an elastic member arranged between the compressor housing and the switching element. Kimura et al teach a "sheet 45 having relatively high elasticity, relatively high insulating performance and relatively high heat conductivity is interposed between the first housing element 21 and the switching devices 44A of the motor drive circuit 41" (Kimura et al, paragraph 41). Kimura et al also teach that the use of this elastic sheet in cooperation with the spacer 51 "appropriately presses the switching devices 44A against the bottom surface 35A of the first housing element 21" (Kimura et al, paragraph 46, lines 4-8) and that the

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use of elastic members provides "high resistance against vibration" (Kimura et al, paragraph 42, last line). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the elastic member of Kimura et al with the compressor of Ikeda and Henein in order to reduce vibration wear on the drive circuit.

Regarding claim 17, the combined references teach the limitations that the adjusting member is made of resin, and that the method of assembly includes the steps of providing the resin (Kimura et al, paragraph 51) for the adjusting member between the circuit cover and the circuit board before the resin is hardened and attaching the circuit board to the circuit cover while the resin remains soft such that the thickness of the adjusting member between the circuit cover and the circuit board is adjusted.

Regarding claim 18, the combined references teach the limitation that the step of arranging the adjusting member includes arranging a spacer between the circuit cover and the circuit board and that the spacer is selected from a plurality of spacers having different thicknesses (Kimura et al, paragraph 47).

***Allowable Subject Matter***

25. Claims 2-3 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable over the art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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26. The following is a statement of reasons for the indication of allowable subject matter: the limitation of a fastener allowing the motor driving circuit to move toward the circuit cover is not shown in the prior art of record.

***Conclusion***

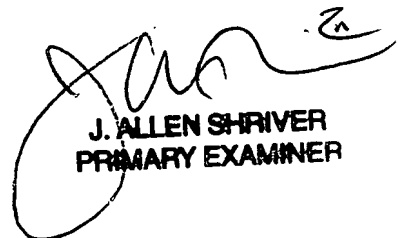
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip E. Stimpert whose telephone number is (571) 270-1890. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM, Alt. Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571) 272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PES

PES (1 May 05)

  
J. ALLEN SHRIVER  
PRIMARY EXAMINER